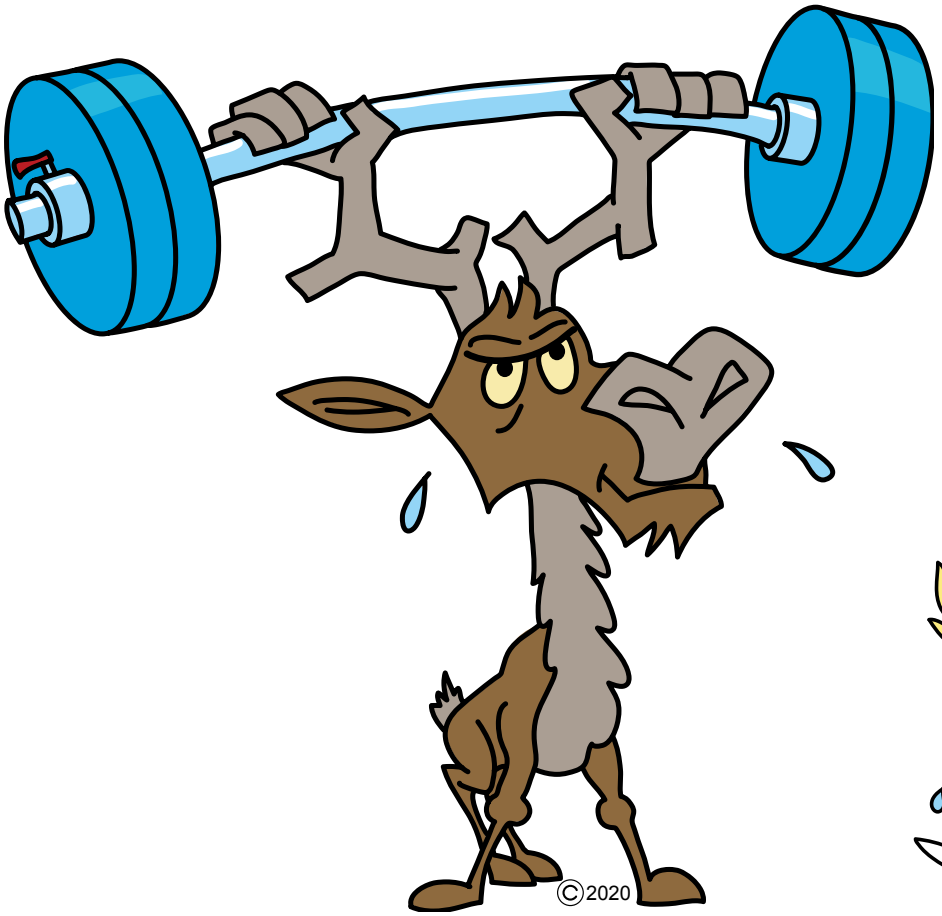
# Colin and Coco's Daily Maths Workout

## Workout 4.7

## Properties of Shapes





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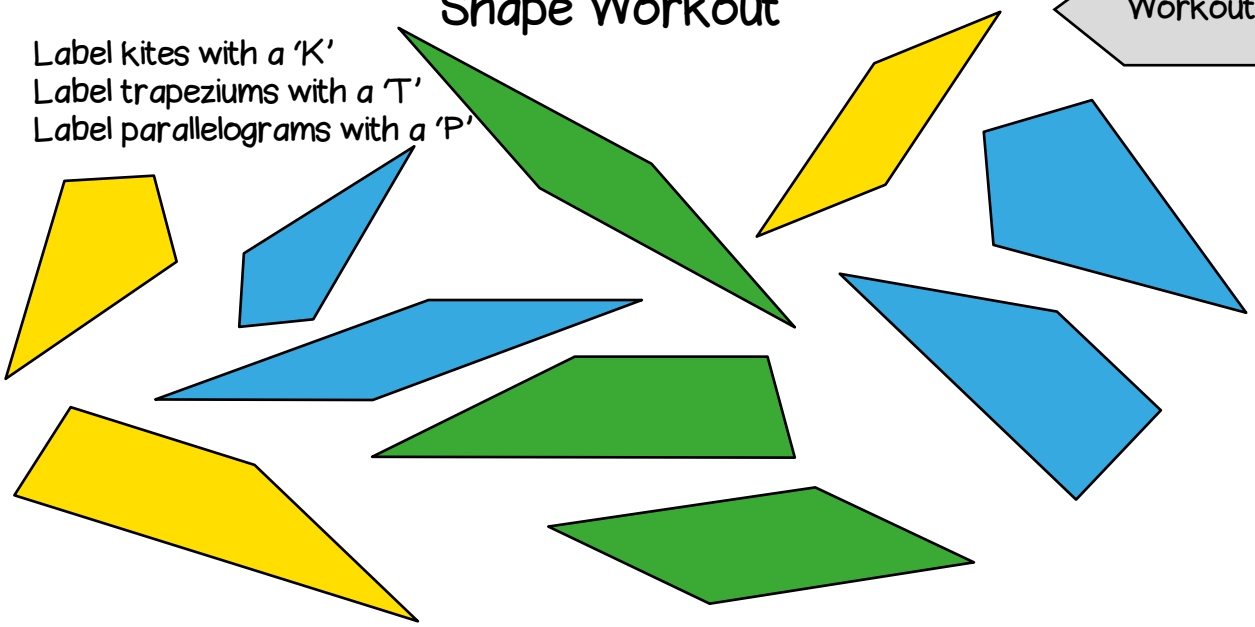
# Shape Workout

Workout A

Label kites with a 'K'
Label trapeziums with a 'T'
Label parallelograms with a 'P'



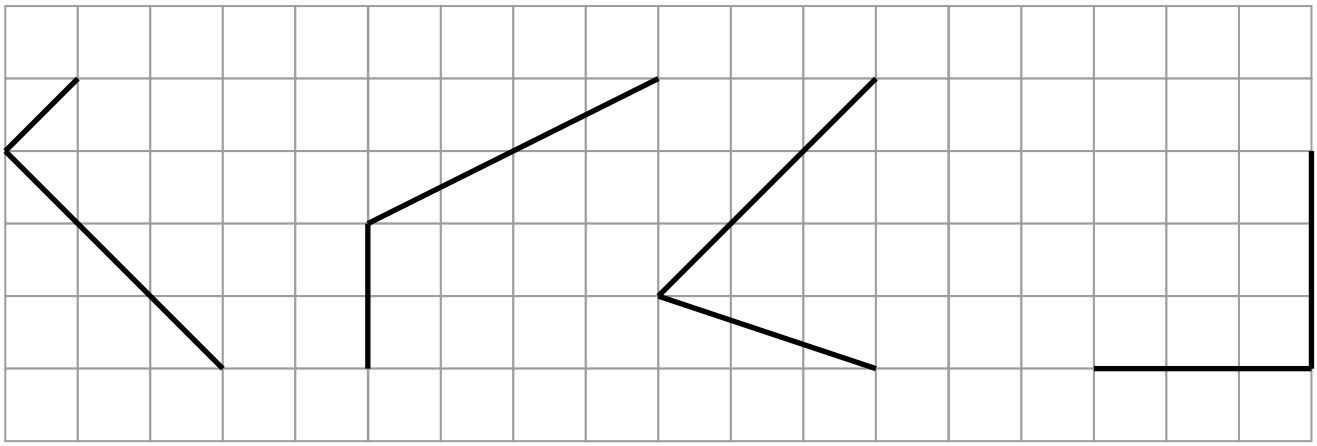
Sketch more kites, trapeziums and parallelograms of your own.

# Shape Workout

Workout B

Join corners of the squares in the grid to complete the shapes.

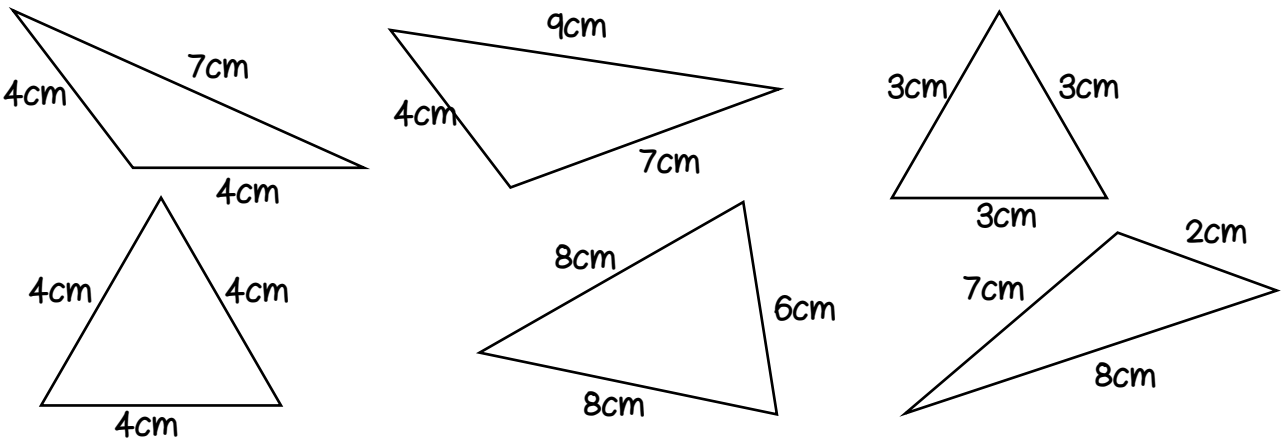
rectangle kite parallelogram trapezium



# Shape Workout

Workout C

Are the triangles scalene, isosceles or equilateral?
They are not drawn to scale.





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# Sketch a Shape (2) Game

Workout D

You need:
Properties of shapes cards (on the next page.)

To play:
Shuffle the cards and place them face down on the table.
Start your turn by turning over a card.
Sketch a shape that has the property on the card.
Now turn over another card.
Sketch a shape that has both the properties of both cards.
Now turn over another card.
Sketch a shape that has all three properties of the cards.
Continue until you can not sketch a shape. You score the number of cards that you completed.

My card says 'at least one pair of parallel sides.'
I have drawn a square.

My second card says 'at least one right angle.'
My square still works.

My third card says 'no equal sides'
I have drawn a trapezium with a right angle.

My third card says 'three straight sides' so I can not sketch a shape to match all my cards. I score 3

For example:
If you cannot sketch a shape with the 2 properties you score 1 and it is the next player's turn.

If you cannot sketch a shape with the 3 properties you score 2 and it is the next player's turn.

To win:
The winner is the first player to accumulate a score of 10


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# Properties of Shapes (2) Cards

| | | |
|---|---|---|
| 3 straight sides | 4 straight sides | more than 4 straight sides |
| no equal sides | at least 2 equal sides | no right angles |
| at least one right angle | no lines of symmetry | at least one line of symmetry |
| no parallel sides | at least one pair of parallel sides | at least one obtuse angle |


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# Missing Number Workout

Workout E

Colin is playing with different types of polygons.
Place digits in the empty boxes to complete the statements in several different ways.

Name of 2-D Shape

| | | |
|---|---|---|
| | | Right angles |
| | | Pairs of parallel sides |
| | | Equal sides |
| | | Sides |
| | | Line of symmetry |

Are there any boxes that could have any of the digits in them?

Now complete all the statements together using the digits 1, 2, 3, 4 and 5 once each.


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# Tangram Shapes

Using the pieces from the Tangram make the following shapes.
Add up the points of the pieces you use each time.

Squares

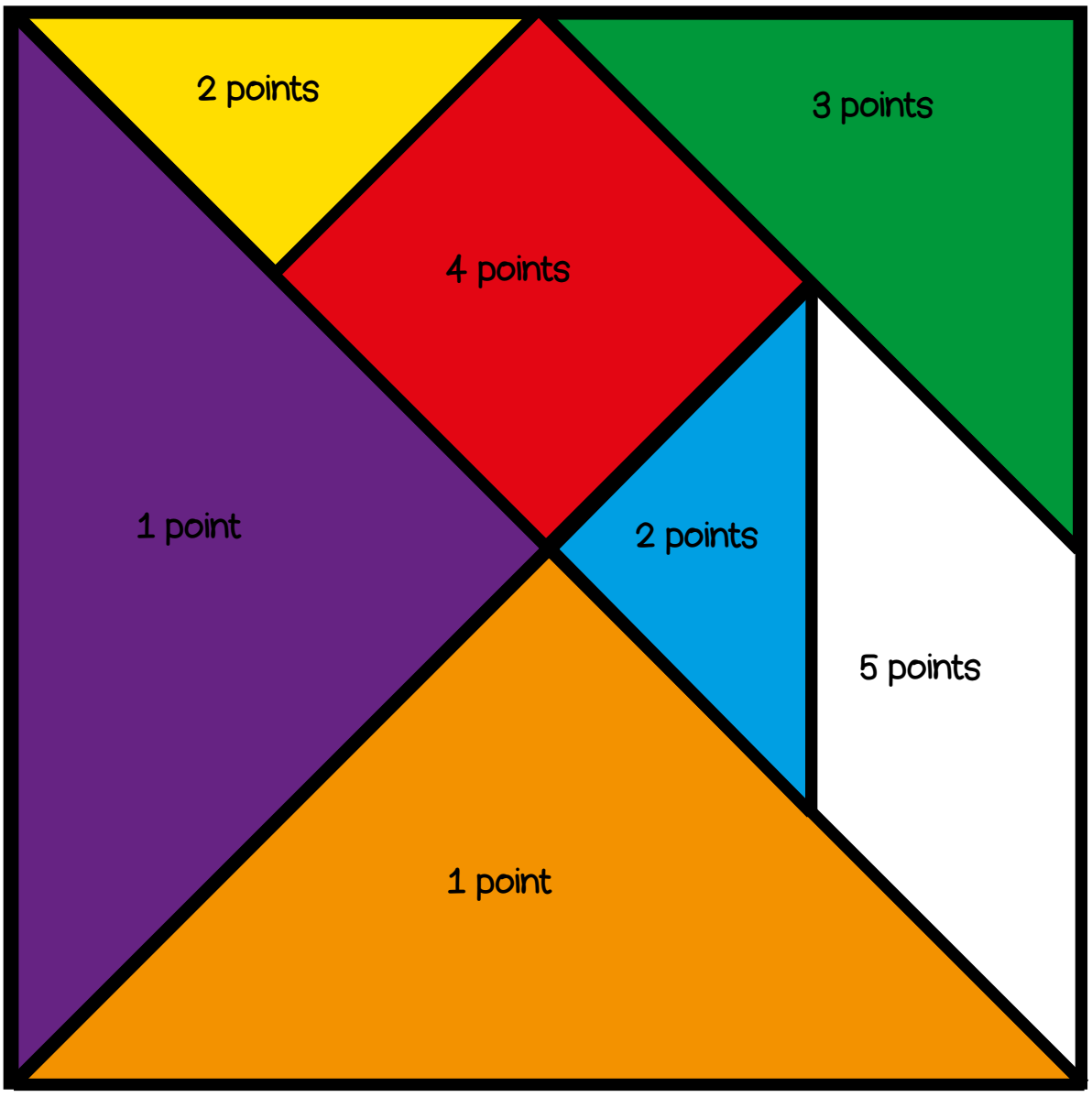
Triangles

Parallelograms

Trapeziums

Investigate the different scores you can get for each shape.

Can you use all 7 pieces to make a pentagon and a hexagon?





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# Word Problems

Workout G

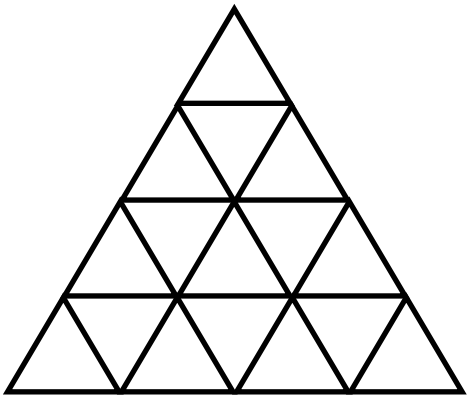
Colin has a bag of cards with quadrilaterals and triangles on them.

1. He pulls out 3 parallelograms and 2 scalene triangles.
How many sides can he count in total?

2. He pulls out 1 rhombus, 1 kite and 3 equilateral triangles.
How many sides can he count altogether?

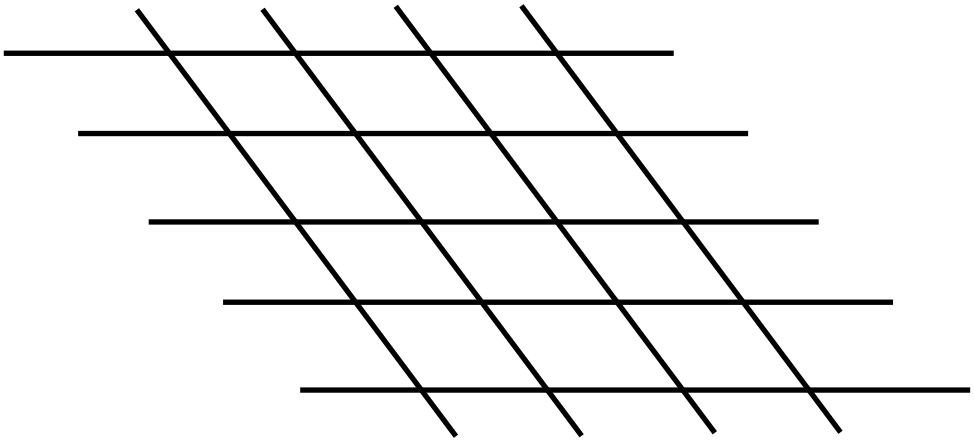
4. He pulls out a mixture of triangles and trapeziums.
He counts 18 vertices.
How many of each shape has he pulled out?

5. How many triangles are in the diagram?



What other shapes can you see?

6. How many parallelograms are in the diagram?

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Workout H

# Who am I?
# Workout

## Use the clues to work out Colin's mystery number.

You may want to cross numbers out on the 100 grid as you consider each clue.

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |
| 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 |
| 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 |
| 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 |
| 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 |
| 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 |
| 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 |

1) I am not a multiple of 9
2) I am not a multiple of 5
3) I am a 2-digit number
4) My tens digit is less than my ones digit
5) The sum of my digits is even
6) I am not a multiple of 6
7) The difference in my digits is greater than 2
8) If you write me using words, I don't need three 'E's
9) The product of my digits is even
10) I am one more than a multiple of 3

Colin's mystery number is ☐

## Create your own 'Who am I?' puzzle

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |
| 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 |
| 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 |
| 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 |
| 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 |
| 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 |
| 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 |

## Please share your puzzle with Colin @MathsCanDo


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